

# FISHES FROM THE HIGH RANGE OF TRAVANCORE

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(With two text figures)

## INTRODUCTION

Travancore has not remained a *terra incognita* to the fluviatile ichthyologist. A perusal of the literature shows that, since the publication of Day's 'Fishes of Malabar' (1865) and 'Fishes of India' (1878-1888), a considerable amount of work has been carried out, especially during the past two decades. Situated at the extreme south of Peninsular India, Travancore has been noted for its richness in the number and variety of freshwater fishes, so much so that with every fresh collection new records, or species new to science, have been discovered. The freshwater fish fauna is also noted for its high endemism. A marked Malayan element in its fauna, is yet another feature of considerable interest.

In recording 76 species as occurring in the freshwaters of Travancore, Hora and Law (1941) surmised that further research would bring to light more species of freshwater fishes from this interesting zoogeographical region. Since then the addition of nearly a dozen freshwater species have been reported from Travancore. Some of these are new to science. Raj (1941), described a new species *Barbus* (*Puntius*) *ophicephalus*, and a subspecies, *B. (Puntius) micropogon periyarensis*, from Kallar, a tributary of the Pambayar river and from the Periyar Lake respectively. Hora and Nair (1941) redescribed a rare gobioid fish, *Sicyopterus griseus* (Day), from Southern Travancore and a new species of Globe-fish of the monotypic genus *Monotretus* Bibron, viz. *Tetraodon (Monotretus) travancoricus*, from the Pambayar river in Northern Travancore. Chacko's list of indigenous fishes of the Periyar Lake (Chacko, 1948), includes the following species not previously listed from Travancore: *Barilius bendelisis* Ham.; *Silonepangasius childreni* (Sykes) (= *Silundia sykesi* Day); and *Anguilla bengalensis* (Gray). In 1949, the writer extended the distribution of *Barbus* (*Puntius*) *dorsalis* (Jerdon), to the fresh waters of Travancore. Recently Menon (1950) reported the discovery of a remarkable blind Cat-fish, *Horaglanis krishnai* from Kottayam. The present collections by the writer (Silas, 1951) from the hill ranges of Travancore show the extended distribution of two other species, viz. *Nemachilus denisonii* Day, in the Peermēd Hills in Northern Travancore and *Esomus barbatulus* (Jerdon), in Southern Travancore.

This paper is a continuation of a previous contribution by the writer (Silas, 1951), and deals with the fishes of the High Range of Travancore.

core. The above list of new records shows that six species have been reported since 1941 (Hora and Law), as occurring in the hill-streams and rivers draining the High Range. They are :—

*Barilius bendelisis* Ham.

*Barbus (Puntius) micropogon periyarensis* Raj.

*Barbus (Puntius) ophicephalus* Raj.

*Nemachilus denisonii* Day.

*Silonopangasius childreni* (Sykes).

*Anguilla bengalensis* (Gray).

To add to these the occurrence of two other remarkable genera described from here recently, viz. a homalopterid, *Travancoria* Hora (1941), and a schizothoracin, *Lepidopygopsis* Raj (1941), show how rich a fauna this part of Travancore possesses. In May and June 1950, while on a visit to the Peermēd hills, the writer was able to make fish collections from certain places from this part of the High Range, and it is the object of this note to report on the material then collected.

#### TOPOGRAPHY

The High Range proper includes some of the highest peaks in the Western Ghats. In the south, especially towards the Peermēd section, the land spreads out into considerable width, with the hills rising upto about 5,000 feet. These ranges are topographically important because, due to their abrupt rise and closeness to the sea-board, they help in checking the South-West Monsoon clouds and give heavy rainfall to the narrow strip of land to their west. These hills also enjoy a maximum rainfall of about 200 inches. The efficient natural drainage system draining the western face of the High Range consisting of innumerable winding perennial streams and rivulets, harbour a very interesting fauna.

#### DRAINAGE SYSTEMS

The High Range is drained by streams which ultimately empty into four main rivers, viz. the Amaravati and the Vaigai on the east, and the Periyar and the Pambayar on the west. Chinnar, a tributary of the Amaravati river, takes its origin from the High Range proper and joins the Amaravati in the plains. The Amaravati in turn becomes confluent with the Cauvery further east. The Suruli, a tributary of the river Vaigai, and the Vaigai itself drains part of the eastern face of the High Range. The Periyar, which drains a greater part of the western face of these hills, ultimately empties into the sea near Cochin. The Pambayar river flows into the Vembanad lake and is not directly connected to the sea. As a result, it has been possible to divide the drainage system into four main watersheds. They are the Cauvery and the Vaigai watersheds on the east, and the Periyar and the Pambayar on the west. Collections have been made from the Periyar and the Pambayar watersheds. The nature of the watersheds, and the localities from where collections have been made, are indicated in the accompanying map.

## DESCRIPTION OF LOCALITIES

To obviate repetition of describing the environment of each species separately, the following brief description of the places of collection is given below. The species are arranged under each locality in the table at the end, and by referring to these descriptions the characteristics of their respective habitats may be ascertained.

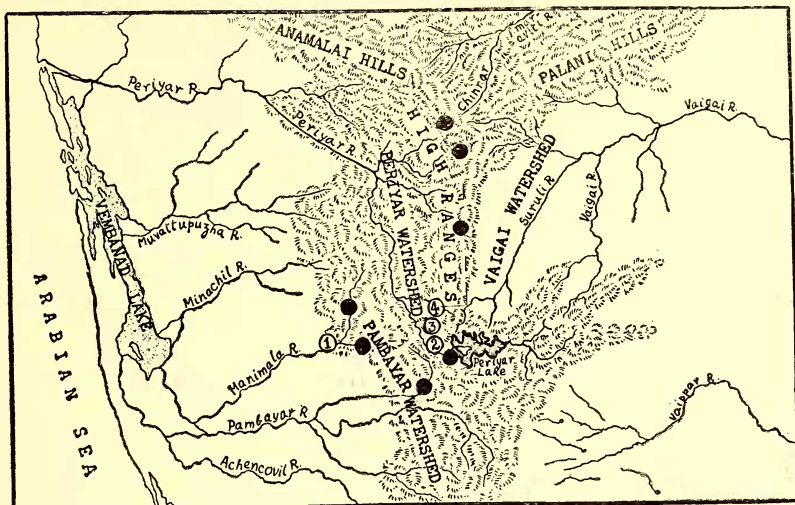


Fig. 1

Map showing the watersheds of the High Range and the localities from where fish collections have been made. (1) Manimala river, Mundakayam, (2) Vandiperiyar river close to Arnakal Estate, Peermēd Hills. (3) Stream in Garadygody Estate, Peermēd Hills. (4) Upper and Lower Pasupara streams, Peermēd Hills. The black circles indicate localities from where previous collections have been reported.

(i) Large stream at Mundakayam, (Manimala River): Typical large hill-stream at the base of the Peermēd Hills. At the time of collection, due to the then prevailing drought, the level of water had gone down considerably and consequently the flow in the stream was also moderate. The bottom is mostly rocky, strewn with stones and pebbles in some places, and muddy in others. A few large pools with generally sandy bottom are present along the course of the stream.

(ii) Vandiperiyar River close to Arnakal Estate, Peermēd Hills: Large river. Due to the then prevailing drought, the flow of water in the river was greatly restricted. In certain places, the water flows over a bed of rocks. The current was not very fast, except in the region of small falls and cascades. A few large and deep pools were present along the course of the river. Aquatic vegetation was found to be practically absent at the time of collection. But plenty of vegetation was present on either bank.

(iii) Stream at Garadygody Estate, Peermēd Hills: Small stream, portions of which were overgrown with plenty of vegetation. Pebbly and shingly bottom intermixed with sand.

Small pools were present along the course of the stream. The current was generally sluggish, except between pools where rapids are formed.

(iv) Upper Pasuparai Stream, Peermēd Hills: Typical large hill-stream, two miles beyond Pasuparai Estate, formed

TABLE

Name of Species	No. of specimens obtained	Standard length	1	2	3	4
Family CYPRINOIDEA						
Sub-family Abramidinae						
<i>Barilius bakeri</i> Day	6	45-93	x	x	—	x
<i>Barilius gatensis</i> (Cuv. and Val.)	14	47-97	—	x	x	x
Sub-family Rasborinae						
<i>Danio aequipinnatus</i> McClell	19	48-96	x	x	x	x
<i>Rasbora daniconius</i> (Ham.).	31	38-115	x	x	x	x
Sub-family Cyprininae						
<i>Barbus (Puntius) amphibius</i> (Cuv. and Val.)	1	97	—	—	—	x
<i>Barbus (Puntius) curmuca</i> (Ham.)-	5	54-193	x	—	—	x
<i>Barbus (Puntius) filamentosus</i> (Cuv. and Val.)	7	78-189	x	x	—	—
<i>Barbus (Tor) khudree malabaricus</i> (Jerdon).	2	165-256	—	x	—	—
<i>Barbus (Puntius) melanampyx</i> Day	40	29-58	x	x	x	x
<i>Barbus (Puntius) micropogon perti-</i>						
<i>yarensis</i> Raj	1	76	—	x	—	—
<i>Barbus (Puntius) ophicephalus</i> Raj	1	128	x	—	—	—
<i>Garra jerdoni</i> Day.	1	151	—	—	—	x
<i>Garra mullya</i> (Sykes)	27	52-149	x	x	x	x
Family HOMALOPTERIDAE						
<i>Bhavana australis</i> (Jerdon).	2	73-113	—	x	—	x
<i>Travancoria jonesi</i> Hora.	1	90	—	—	—	x
Family COBITIDAE						
<i>Lepidocephalus thermalis</i> (Cuv. and Val.)	29	51-71	x	x	x	x
<i>Nemachilus denisonii</i> Day.	11	41-64	—	x	—	x
<i>Nemachilus guntheri</i> Day.	3	70-76	—	x	—	—
<i>Nemachilus triangularis</i> Day.	4	85-89	—	x	—	—
Family HETEROPNEUSTIDAE						
<i>Heteropneustes fossilis</i> (Bloch).	1	182	x	—	—	—
Family SILURIDAE						
<i>Ompok bimaculatus</i> (Bloch).	1	76	—	x	—	—
Family BAGRIDAE						
<i>Mystus cavasius</i> (Ham.)	1	73	x	—	—	—
<i>Glyptothorax madraspatanus</i> Day	4	111-166	—	x	—	x
Family CYPRINODONTIDAE						
<i>Aplocheilichthys lineatus</i> (Cuv. and Val.)	17	36-69	x	x	x	x
Family GOBIIDAE						
<i>Glossogobius giuris</i> Ham.	2	71-74	x	—	—	—
Family OPHICEPHALIDAE						
<i>Ophicephalus gachua</i> Ham.	16	69-112	x	x	x	x
Family MASTACEMBELIDAE						
<i>Mastacembelus armatus</i> (Lacép).	9	123-304	—	x	—	x

of rapids and pools in succession. The stream flows along a wooded valley. Conditions are almost similar to those observed in (ii) above.



(v) Lower Pasuparai Stream, Pasuparai Estate, Peermēd Hills: Fairly large sluggish stream with plenty of outflow over a bottom of sand and stones. In certain places the bottom is muddy. Plenty of shade is afforded by overhanging branches of trees on either bank. A certain amount of aquatic vegetation was present at the time of collection. The stream is fairly deep in certain places, but no deep pools were present where collection was made.

In addition to the above mentioned localities, collections were also made from smaller streams in their vicinities. The following table (p. 326) indicates the species obtained by the writer from the different localities. The total number of specimens of each species and their standard lengths are also given. The localities from which the specimens were obtained are for convenience, numbered as:—(1) Stream at Mundakayam, Manimala River; (2) Vandiperiyar river close to Arnakal Estate, Peermēd Hills; (3) Stream in Garadygody Estate, Peermēd Hills and (4) Upper and Lower Pasuparai streams, Peermēd Hills. (See table on p. 326).

In all 257 specimens pertaining to 27 species of 18 genera, falling under 11 families were obtained. Except for the species collected at Mundakayam, which is in the Pambayar Watershed, all other species are from the Periyar Watershed.

In order to make the faunistic account more complete, species recorded by earlier workers and not present in the above list are given below. In his list of fishes from Travancore, except for *Barbus* (*Puntius*) *denisonii* Day, Pillay (1929) has not referred to species as having been taken from any locality in the High Range. John (1936), has specially mentioned Munnar, Devikulam and the Peermēd Hills for the species *Barbus* (*Puntius*) *denisonii* Day and *Nemachilus triangularis* Day. Hora and Law (1941) have recorded the two species *Rasbora rasbora* (Ham.) and *Mystus malabaricus* (Jerdon), not included in the above list, from Pambadampara in the High Range. Chacko's faunistic list of fishes from the Periyar Lake (Chacko, 1948), includes the following species not in the present collection: *Notopterus notopterus* (Pallas); *Chela boopis* Day; *Barilius bendelisis* Ham.; *Barbus* (*Puntius*) *melanostigma* Day; *Barbus* (*Puntius*) *sarana* (Cuv. and Val.); *Catla catla* (Ham.); *Lepidopygopsis typus* Raj; *Nemachilus evizardi* Day; *Silonopangasius childreni* (Sykes); *Mystus vittatus* (Bloch); *Anguilla australis* Rich.; *Anguilla bengalensis* Gray; *Ophicephalus striatus* (Bloch); and *Macrognathus aculeata* (Bloch).

Thus at present about 44 species are known to occur in the High Range of Travancore. Short notes on certain species of interest in the present collection are given below. The loach *Nemachilus denisonii* is recorded from Travancore for the first time.

### ***Barbus* (*Puntius*) *micropogon periyarensis* Raj.**

1941 *Barbus* (*Puntius*) *micropogon periyarensis*, Raj, *Rec. Ind. Mus.*, XLIII, p. 379, fig. 3-4.

1 specimen, Vandiperiyar river close to Arnakal Estate, Peermēd Hills.

I have compared this interesting form with the type in the collection of the Zoological Survey of India, Indian Museum, and find that they agree in all essential features. In possessing 44 scales on the lateral line and 19-21 predorsal scales, this subspecies is sufficiently distinct from *Barbus (Puntius) micropogon* (Cuv. & Val.), which has only 38 to 39 scales along the lateral line and 12 predorsal scales.

***Barbus (Puntius) ophicephalus* Raj.**

1941 *Barbus (Puntius) ophicephalus* Raj. *Rec. Ind. Mus.*, XLIII, p. 376, fig. 1-2.

1 specimen. Large stream close to Mundakayam, at the foot of the Peermēd Hills.

Raj (1941) described this new species from Kallar, a tributary of the Pambayar river south of the Periyar Lake. Though this species shows a certain amount of similarity to *Barbus (Puntius) lithophilus* Day, it is distinguished from it in characters such as the lesser number of dorsal rays (3/7 versus 4/9), the greater number of lateral line scales 43-45 versus 37-39) and predorsal scales (15-17 versus 11-14). The colouration of the species is also very characteristic. In spirit, the lower half of the body is lighter than the upper half. A broad dark band runs along the lateral line from behind the head to middle of the base of the caudal fin.

***Nemachilus güntheri* Day.**

1941 *Nemachilus güntheri*. Hora & Law, *Rec. Ind. Mus.*, XLIII, p. 250, Pl. ix, figs. 2-6.

3 specimens. Stream in Pasuaparai Estate, Peermēd Hills.

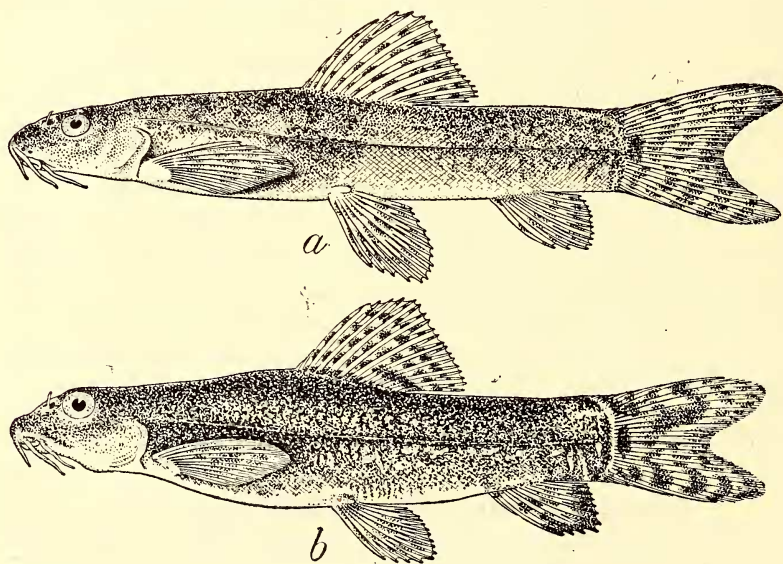


Fig. 2

Lateral view of *Nemachilus güntheri* Day (female specimens) showing colour variations.

In their account on the 'Freshwater Fishes of Travancore' Hora and Law (1941), have redefined this species from two specimens obtained from Pambadampara, High Range, in comparison with specimens from other places. The colour pattern varies to a certain extent in the specimens under report. In the fresh specimens, the ground colour is pinkish, the sides being coarsely reticulated with olive brown markings. Considerable difference in the nature of the reticulation is seen in the specimens under report. A black band is present at the base of the caudal fin. The caudal has from 4 to 6 V-shaped dark bands on it. The paired fins and the anal have 2 to 3 lighter bands on them. The ventral median surface in front of the pelvic bases is light yellowish in colour without any markings. Faint brownish reticulations are present on the ventral surface behind the pelvic bases.

**Nemachilus denisonii** Day.

1878, *Nemachilus denisonii* Day, Fish. India, p. 617, Pl. CLIII, fig. 5.

4 specimens. Vandiperiyar river close to Arnakal Estate, Peermēd Hills.

7 specimens. Stream two miles beyond Pasuparai Estate, and from the estate streams. Peermēd Hills.

Eleven specimens, measuring 41 to 64 mm. in length, are referred to this species. *N. denisonii* was so far known from the Nilgiri and Coorg Hills, the rivers at their bases, Mysore and the Deccan. Das (1939), referred certain specimens from Hazaribagh District in Bihar to this species. The present record from the Peermēd Hills extends the distribution of this species from the north in the Nilgiri Hills, across the Palghat Gap further south. A certain amount of variation in the colour pattern is discernible in the specimens in relation to their length. The sides of the body in the smaller specimens have 9 to 11 vertical dark bands which coalesce dorsally with those of the opposite side. The ventral median surface is light yellowish without any markings. The lighter alternating bands on the body are narrower than the dark bands. In older specimens the vertical dark bands on the sides in front of the dorsal fin coalesce and become indistinct. The head is marbled with fine black dots. The dorsal possesses two dark blotches at its base, corresponding to the dark bands beneath it. The dorsal fin is marked with two rows of fine black dots. The caudal possesses 3 to 4 irregular dark bands. A dark bar is present at the caudal base. All other fins are pale whitish in colour.

**Travancoria jonesi** Hora.

1941 *Travancoria jonesi* Hora, Rec. Ind. Mus., XLIII, p. 230, Pl. viii, figs. 5-6.

1 specimen. Stream two miles beyond Pasuparai Estate, Peermēd Hills.

A single specimen of this remarkable homalopterid fish was obtained from the large stream close to Pasuparai Estate. This is the second locality for this species in Travancore. The species was described

from specimens collected at Pambadampara, 50 miles north and later recorded from the Anamalai Hills (Puthutotam Estate, close to Valparai town).

**Bhavana australis** (Jerdon).

1941 *Bhavana australis* Hora, *Rec. Ind. Mus.*, XLIII, p. 225, Pl. viii, figs. 1-3.

1 specimen. Stream in Pasuparai Estate, Peermēd Hills.

1 specimen. Vandiperiyar river close to Arnakal Estate, Peermēd Hills.

Hora (op. cit.), has given a complete diagnosis of this species and discussed its affinities with other Homalopterid genera. *B. australis* seems to be fairly common in the southern portions of the Western Ghats. In the possession of greatly restricted gill-openings, *B. australis* is distinguished from the *Travancoria Jonesi* Hora.

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